```
FILE 'REGISTRY' ENTERED AT 09:55:[illegible] ON 17 APR 2003

=> S N-ACETYL AMINO ACID RACEMASE OR
L1             0 N-ACETYL AMINO ACID RACEMASE OR

=> S AMINO ACID RACEMASE OR
L2             0 AMINO ACID RACEMASE OR

=> S L
L3             0 L

=> D

L3   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS
RN   9076-01-8  REGISTRY
ED   Entered STN: 16 Nov 1984
CN   Racemase, amino acid  (8CI)    CA INDEX NAME
OTHER NAMES:
CN      ***Amino acid racemase***
CN   E.C. 5.1.1.-
CN   L-Amino acid racemase
MF   Unspecified
CI   MAN
LC   STN Files:   AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CEN, TOXCENTER,
       USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
               54 REFERENCES IN FILE CA (1962 TO DATE)
               54 REFERENCES IN FILE CAPLUS (1962 TO DATE)


FILE 'CAPLUS' ENTERED AT 09:56:38 ON 17 APR 2003

=> S AMINO ACID RACEMASE/S L2/S L3,L4
         914334 AMINO
             42 AMINOS
         914351 AMINO
                (AMINO OR AMINOS)
        360"955 ACID
        1370818 ACIDS
        4069468 ACID
                (ACID OR ACIDS)
           1089 RACEMASE
            143 RACEMASES
           1110 RACEMASE
                (RACEMASE OR RACEMASES)
L3           110 AMINO ACID RACEMASE
                (AMINO(W)ACID(W)RACEMASE)


L4            54 L2


L5           115 (L3 OR L4)

=> S AMYCOLATOPSIS
L6           435 AMYCOLATOPSIS

=> S L5 AND L6
L7             2 L5 AND L6

=> D 1-2 CBIB ABS

L7   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2003 ACS
2003:291802   Document No. 136:309862  Method for producing enantiomerically
      enriched amino acids from N-substituted amino acids.  Rommarius, Andreas;
      Turnsek, Stefan; Drauz, Karlheinz (Degussa A.-G., Germany).  Eur. Pat.
      Appl. EP 1197568 A1 20020417, 12 pp.  DESIGNATED STATES: R:  AT, BE, CH,
      DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI,
      RO.  (German).  CODEN: EPXXDW.  APPLICATION: EP 2001-124428 20011011.
      PRIORITY: DE 2000-10050113 20001011.
AB    A process is provided for the prodn. of enantiomerically enriched amino
      acids.  The envisioned process employs a N-acetyl-  ***amino***
        ***acid***     ***racemase***   in conjunction with an amino acid acylase.
```

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS
1996:715613 Document No. 126:17172 An effective production of optically active amino acids. Tokuyama, Shinji; Hatano, Kazunori (Fac. Agric., Shizuoka Univ., Shizuoka, 422, Japan). Baiosaiensu to Indasutori, 54(11), [illegible] (Japanese) 1996. CODEN: BISIEK. ISSN: 0914-8981. Publisher: Baiindasutori Kyokai.

AB A review with [illegible] refs. After the screening of various strains of bacteria, actinomycetes, molds and yeasts, actinomycetes have been found that produce a novel N-acyl ***amino*** ***acid*** ***racemase*** . Among actinomycetes, ***Amycolatopsis*** sp. TS-1-60 strain isolated from soil shows the highest prodn. of N-acyl ***amino*** ***acid*** ***racemase*** . Properties of the enzyme are described. Large-scale prodn. of the enzyme becomes possible by transformation of the N-acylamino acid racemase gene into E. coli. Purified optically active amino acid can be obtained by passing N-aminoacyl DL-amino acid through a column of DEAE-Toyopearl 650 M to which aminoacylase and racemase are bound.

=> S N-CARBAMOYL AMINO ACID
1562614 N
21342 CARBAMOYL
9 CARBAMOYLS
21346 CARBAMOYL
(CARBAMOYL OR CARBAMOYLS)
914334 AMINO
42 AMINOS
914351 AMINO
(AMINO OR AMINOS)
3607955 ACID
1370818 ACIDS
4069468 ACID
(ACID OR ACIDS)
L8 38 N-CARBAMOYL AMINO ACID
(N(W)CARBAMOYL(W)AMINO(W)ACID)

=> S N CARBAMOYL AMINO ACID
1562614 N
21342 CARBAMOYL
9 CARBAMOYLS
21346 CARBAMOYL
(CARBAMOYL OR CARBAMOYLS)
914334 AMINO
42 AMINOS
914351 AMINO
(AMINO OR AMINOS)
3607955 ACID
1370818 ACIDS
4069468 ACID
(ACID OR ACIDS)
L9 38 N CARBAMOYL AMINO ACID
(N(W)CARBAMOYL(W)AMINO(W)ACID)

=> S L9 AND L5
L10 2 L9 AND L5

=> S L10 NOT L7
L11 2 L10 NOT L7

=> D 1-2 IBIB ABS

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
2000:520535 Document No. 133:252690 Microbial and enzymic synthesis of optically pure D- and L-3-trimethylsilyl-alanine by deracemization of D,L-5-trimethylsilylmethyl-hydantoin. Pietzsch, Markus; Waniek, Thomas; Smith, Richard J.; Bratovanov, Svetoslav; Bienz, Stefan; Syldatk, Christoph (Institute of Biochemical Engineering, University of Stuttgart, Stuttgart, D-70569, Germany). Monatshefte fuer Chemie, 131(6), 645-653 (English) 2000. CODEN: MOCMB7. ISSN: 0026-9247. Publisher: Springer-Verlag Wien.

AB The stereospecificities of hydantoinases and ***N*** - ***carbamoyl*** ***amino*** ***acid*** amidohydrolases (N-carbamoylases) from

[illegible] [illegible] [illegible] [illegible] [illegible]
synthesis of the unnatural silicon-contg. amino acids D- and
L-b-trimethylsilyl-alanine [illegible] from the resp. racemic hydantoin, D,L-1.
In a preparative biotransformation, whole resting cells of Agrobacterium
sp. IP I-671, immobilized in a Ca-alginate matrix, were used for the
synthesis of amino acid L-3 in 97% yield and 98% enantiomeric excess.
Also the purified L-N-carbamoylase from Agrobacterium sp. IP I-671 was
shown to be 100% L-selective, the enantiomeric purity of 98% of L-3
arising from the transformation with the immobilized cells must be
explained by the participation of a further, L-selective N-carbamoylase
or, which is more likely, by racemization of the final hydrolysis product
by the action of an ***amino*** ***acid*** ***racemase*** .
Isolated hydantoinases from Bacillus thermoglucosidasius, Thermus sp.,
Arthrobacter aurescens DSM 3747, and Arthrobacter crystallopoietes DSM
[illegible] turned out to be stereospecific for the conversion of the D-form of
hydantoin D,L-1. The enantiomerically pure L-form of 3 was also prepd.
It was synthesized from racemic ***N*** - ***carbamoyl***
amino ***acid*** , D,L-3, by enantiomer-specific hydrolysis of
the L-form in presence of L-N-carbamoylase from Arthrobacter aurescens DSM
3747.

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
[illegible] Document No. 109:127926 Manufacture of L-.alpha.-amino acids
from hydantoins or N-carbamoyl-.alpha.-amino acids with microorganisms or
microbial enzymes. Hoeltmann, Wilhelm; Wagner, Fritz; Cotoras, Davor;
Syldatk, Christoph; Dombach, Giselher; Gross, Christiane; Gross,
Christiane Dipl Biol; Wagner, Thomas (Ruetgerswerke A.-G., Fed. Rep.
Ger.). Ger. Offen. DE 3712539 A1 19880211, 6 pp. (German). CODEN:
GWXXBX. APPLICATION: DE 1987-3712539 19870413. PRIORITY: DE 1986-3615012
19860724.
AB Microorganisms or exts. therefrom contg. the enzymes hydantoinase-DL-
carbamoyl-.alpha.- ***amino*** ***acid*** ***racemase*** and
L-N-carbamoyl-.alpha.-amino acid amidohydrolase, are used to prep.
L-.alpha.-amino acids from 5-substituted hydantoins or
N-carbamoyl-.alpha.-amino acids. Novel Coryneform bacteria were
indentified and isolated based on their growth on DL-3-methyleneindolyl-5-
hydantoin. One isolate, CW3, 20 g wet wt. was incubated for 24 h at
27.degree. with this substrate 80 mmol. The cell-free supernatant
contained L-tryptophan 28 mmol (HPLC detn.).

FILE 'REGISTRY' ENTERED AT 10:00:13 ON 17 APR 2003

=> S N ACETYL AMINO ACID RACEMASE/CN
L10 0 N ACETYL AMINO ACID RACEMASE/CN

FILE 'CAPLUS' ENTERED AT 10:00:43 ON 17 APR 2003

=> E BOMMARIUS/AU
=> S E3-E9
1 BOMMARIUS/AU
3 "BOMMARIUS A"/AU
11 "BOMMARIUS A S"/AU
43 "BOMMARIUS ANDREAS"/AU
1 "BOMMARIUS ANDREAS DR"/AU
28 "BOMMARIUS ANDREAS S"/AU
1 "BOMMARIUS ANDREAS SEBASTIAN"/AU
L12 86 ("BOMMARIUS"/AU OR "BOMMARIUS A"/AU OR "BOMMARIUS A S"/AU OR "BOMM
ARIUS ANDREAS"/AU OR "BOMMARIUS ANDREAS DR"/AU OR "BOMMARIUS
ANDREAS S"/AU OR "BOMMARIUS ANDREAS SEBASTIAN"/AU)

=> E DRAUZ K/AU
=> S E3-E5
16 "DRAUZ K"/AU
1 "DRAUZ KARHEINZ"/AU
11 "DRAUZ KARL HEINZ"/AU
1 "DRAUZ KARLHEIN"/AU
229 "DRAUZ KARLHEINZ"/AU
1 "DRAUZ KARLHEINZ PROF"/AU
L14 256 ("DRAUZ K"/AU OR "DRAUZ KARHEINZ"/AU OR "DRAUZ KARL HEINZ"/AU
OR "DRAUZ KARLHEIN"/AU OR "DRAUZ KARLHEINZ"/AU OR "DRAUZ KARLHEI

```
                NE BRIEF" AC

=> E VERSECK S/AU
=> S E3,E4
                1 "VERSECK S"/AU
                1 "VERSECK STEFAN" AU
L11             2 "VERSECK S" AU OR "VERSECK STEFAN" AU

=> E KULA M/AU
=> S E3-E5,E7-E10
                1 "KULA M"/AU
                1 "KULA M E"/AU
              147 "KULA M R"/AU
                1 "KULA MARIA"/AU
               19 "KULA MARIA R"/AU
              288 "KULA MARIA REGINA"/AU
                1 "KULA MARIA REGINA A"/AU
L14           459 "KULA M"/AU OR "KULA M E"/AU OR "KULA M R"/AU OR "KULA MARIA"/A
                U OR "KULA MARIA R"/AU OR "KULA MARIA REGINA"/AU OR "KULA MARIA
                REGINA A"/AU

=> S L13,L14,L15,L16
L17           727 (L13 OR L14 OR L15 OR L16)

=> S L17 AND L5
L18             1 L17 AND L5

=> S L8 AND L17
L19             1 L8 AND L17

=> S (L18,L19) NOT (L7,L11)
L20             1 ((L18 OR L19)) NOT ((L7 OR L11))

=> D CBIB ABS

L20  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
2003:4814  Document No. 138:68921  A D-hydantoinase of Arthrobacter and
     manufacture of an active form of the enzyme for use in the manufacture of
       ***N***  -  ***carbamoyl***     ***amino***     ***acids***  .
       ***Bommarius, Andreas***  ;   ***Draue, Karlheinz***  ; May, Oliver;
     Siemann-Herzberg, Martin; Syldatk, Christoph; Werner, Markus;
     Altenbuchner, Josef (Degussa A.-G., Germany).  Eur. Pat. Appl. EP 1270730
     A2 20030102, 26 pp.  DESIGNATED STATES: R:  AT, BE, CH, DE, DK, ES, FR,
     GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL,
     TR.  (German).  CODEN: EPXXDW.  APPLICATION: EP 2002-12593 20020606.
     PRIORITY: DE 2001-10130169 20010622.
AB   A D-hydantoinase is identified in Arthrobacter crystallopoietes and
     characterized for use in the manuf. of D-amino acids from hydantoins.  The
     gene encoding the enzyme is cloned and expressed to manuf. the enzyme.
     The enzyme is recovered in active form by cultivating the bacterium in a
     medium contg. a divalent metal cation, preferably Zn2+.  The protein was
     purified 19.6-fold (24% yield) and amino acid sequence-derived degenerate
     primers used to clone the gene.  The gene (hyuD) was placed under control
     of the prior art rhamnose-regulated promoter in the expression vector
     pJOE4936.  Induction of gene expression with rhamnose increased the level
     of D-hydantoinase activity, but when the culture contained a raised level
     of zinc, the activity was raised 10-fold.
```

	L #	Hits	Search Text	DBs
1	L1	2	N ADJ ACETYL ADJ AMINO ADJ ACID ADJ RACEMASE	USPAT ; US-PG PUB
2	L2	151	AMYCOLATOPSIS	USPAT ; US-PG PUB
3	L3	25	AMINO ADJ ACID ADJ RACEMASE	USPAT ; US-PG PUB
4	L5	3	L4 NOT L1	USPAT ; US-PG PUB
5	L4	5	L2 AND (L1 OR L3)	USPAT ; US-PG PUB

Title: US-08-347-221-1

RESULT 2
US-08-347-221-1
; Sequence 1, Application US/08/347,221
; Patent No. 5641671
; GENERAL INFORMATION:
; APPLICANT: Masahiro FUKUYAMA et al.
; TITLE OF INVENTION: DNA FRAGMENT ENCODING ASPARAGINE ADD
; TITLE OF INVENTION: RACEMASE AS AMENDED
; NUMBER OF SEQUENCES: 6
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Wenderoth, Lind & Ponack
; STREET: 806 Fifteenth Street, N.W., #700
; CITY: Washington
; STATE: D.C.
; COUNTRY: U.S.A.
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette, 5.25 inch, 360 Kb
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: MS-DOS
; SOFTWARE: Wordperfect 5.1
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/347,221
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 07/984,310
; FILING DATE: December 1, 1992
; APPLICATION NUMBER: 07/668,475
; FILING DATE: March 13, 1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Warren M. Cheek Jr.
; REGISTRATION NUMBER: 33,367
; REFERENCE/DOCKET NUMBER:
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 202-371-8850
; TELEFAX:
; TELEX:
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1400 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: double
; TOPOLOGY: linear
; MOLECULE TYPE:
; HYPOTHETICAL:
; ANTI-SENSE:
; FRAGMENT TYPE:
; ORIGINAL SOURCE:
; ORGANISM:
; STRAIN:
; INDIVIDUAL ISOLATE:
; DEVELOPMENTAL STAGE:
; HAPLOTYPE:
; TISSUE TYPE:
; CELL TYPE:
; CELL LINE:
; ORGANELLE:
; IMMEDIATE SOURCE:
; LIBRARY:
; CLONE:
; POSITION IN GENOME:
; CHROMOSOME/SEGMENT:
; MAP POSITION:
; UNITS:
; FEATURE:
; NAME KEY:
; LOCATION:
; IDENTIFICATION METHOD:

```
;       OTHER INFORMATION:
;     PUBLICATION INFORMATION:
;       AUTHORS:
;       TITLE:
;       JOURNAL:
;       VOLUME:
;       ISSUE:
;       PAGES:
;       DATE:
;       DOCUMENT NUMBER:
;       FILING DATE:
;       PUBLICATION DATE:
;       RELEVANT RESIDUES IN SEQ ID NO:
[illegible]

  Query Match             75.0%;  Score 863.8;  DB 1;  Length 1440;
  Best Local Similarity   86.3%;  Pred. No. 1.9e-145;
  Matches  955;  Conservative    0;  Mismatches  152;  Indels    0;  Gaps    0;

Qy        1 GTGAAACTCAGCGGTGTGGAACTGCGCCGGGTCCGGATGCCGCTCGTGGCCCCGTTCCGG 60

Db       62 GTGAAACTCAGCGGTGTGGAACTGCGCCGGGTGCAGATGCCGCTCGTCGCCCCGTTCCGG 121

Qy       61 ACGTCGTTCGGGACGCAGTCCGAGCGGGAATTGCTGCTGGTCCGCGCGGTGACCCCGGCG 120

Db      122 ACTTCGTTCGGCACCCAGTCGGTCCGCGAGCTCTTGCTGCTGCGCGCGGTCACGCCGGCC 181

Qy      121 GGCGAGGGCTGGGGCGAATGTGTCGCGATGGAGGCGCCGCTCTACTCGTCGGAGTACAAC 180

Db      182 GGCGAGGGCTGGGGCGAATGCGTGACGATGGCCGGTCCGCTGTACTCGTCGGAGTACAAC 241

Qy      181 GACGCCGCCGAGCACGTGCTGCGGAACCATCTGATCCCCGCACTGCTGGCGGCCGAGGAC 240

Db      242 GACGGCGCGGAACACGTGCTGCGGCACTACTTGATCCCGGCGCTGCTGGCCGCGGAAGAC 301

Qy      241 GTGACCGCGCACAAGGTGACGCCGTTGCTGGCGAAGTTCAAGGGCCACCGGATGGCGAAG 300

Db      302 ATCACCGCGGCGAAGGTGACGCCGCTGCTGGCCAAGTTCAAGGGCCACCGGATGGCCAAG 361

Qy      301 GGCGCGCTGGAGATGGCGGTCCTCGACGCCGAACTCCGCGCGCATGACCGGTCCTTCGCG 360

Db      362 GGCGCGCTGGAGATGGCCGTGCTCGACGCCGAACTCCGCGCGCACGAGAGGTCGTTCGCC 421

Qy      361 GCCGAGCTGGGGTCCACTCGCGACTCCGTGGCCTGCGGGGTCTCGGTCGGGATCATGGAC 420

Db      422 GCCGAACTCGGATCGGTGCGCGATTCTGTGCCGTGCGGCGTTTCGGTCGGGATCATGGAC 481

Qy      421 TCGATCCCGCACCTGCTCGACGTCGTCGGCGGCTACCTCGACGAGGGCTACGTCCGGATC 480

Db      482 ACCATCCCGCAACTGCTCGACGTCGTGGGCGGATACCTCGACGAGGGTTACGTGCGGATC 541

Qy      481 AAGCTGAAGATCGAGCCCGGCTGGGACGTCGAGCCGGTCCGGCAGGTGCGTGAGCGCTTC 540

Db      542 AACCTCAAGATCGAACCCGGCTGGGACGTTGAGCCGGTGCGCGGGTCCGCGAGCGCTTC 601

Qy      541 GGTGACGACGTGCTGCTGCAGGTCGACGCGAACACCGCGTACACGCTGGGCGACGCGCCC 600

Db      602 GGCGACGACGTGCTGCTGCAGGTCGACGCGAACACCGCCTACACCCTGGGCGACGCGCCG 661

Qy      601 CTGCTGTCCCGGCTCGACCCGTTCGACCTGCTGCTGATCGAGCAGCCGCTCGAAGAAGAG 660

Db      662 CAGCTGGCCCGGCTCGACCCGTTCGGCCTGCTGCTGATCGAGCAGCCGCTGGAAGAGGAG 721

Qy      661 GACGTGCTTGGCCACGCCGAGCTGGCCAAGCGGATCCGGACGCCGATCTGCCTCGACGAG 720

Db      722 GACGTGCTTGGCCACGCCGAACTGGCCCGCCGGATCCAGACACCGATCTGCCTCGACGAG 781

Qy      721 TCGATCGTCTCGGCCAAGGCCGCCGCGGACGCGATCAAGCTCGGCGCCTGCCAGATCGTC 780

Db      782 TCGATCGTGTCGGCGCGCGCGGCGGCGGACGCCATCAAGCTGGGCGCGGTCCAAATCGTG 841
```

RESULT 1
AAF[illegible]
ID AAF[illegible] standard; protein; [illegible] AA.
XX
AC AAF[illegible];
XX
DT 17-MAY-2001 (first entry)
XX
DE A. orientalis subsp lurida N-acetyl amino acid racemase protein.
XX
KW N-acetyl amino acid racemase; AAR; enantiomerically enriched amino acid;
KW enzyme-membrane reactor; N-acetyl-D-methionine; N-acetyl-L-methionine;
KW L-methionine; heavy metal dependency.
XX
OS Amycolatopsis orientalis.
XX
PN EP1074608-A1.
XX
PD 07-FEB-2001.
XX
PF 03-JUL-2000; 2000EP-01116912.
XX
PR [illegible]-JUL-1999; 99DE-19930648.
XX
PA (DEGS) DEGUSSA-HUELS AG.
XX
PI Verseck S, Kula M, Bommarius A, Drauz K;
XX
DR WPI; 2001-161182/17.
DR N-PSDB; AAF61120.
XX
PT New N-acetyl amino acid racemase enzyme derived from Amycolatopsis
PT orientalis ssp. lurida, useful for producing enantiomerically enriched
PT amino acids -
XX
PS Disclosure; Page 10-13; 23pp; German.
XX
CC This invention describes a novel N-acetyl amino acid racemase (AAR)
CC enzyme (I) derived from Amycolatopsis orientalis ssp. lurida (DSM 43134).
CC The invention also describes (1) a gene coding for (I); (2) a vector
CC containing the gene; (3) a microorganism containing the gene; (4) a
CC primer for the gene; and (5) a probe for the gene. (I) is useful for
CC producing enantiomerically enriched amino acids in an enzyme-membrane
CC reactor, e.g. by AAR-catalyzed conversion of N-acetyl-D-methionine to
CC N-acetyl-L-methionine followed by acylase-catalyzed conversion to
CC L-methionine. (I) exhibits reduced heavy metal dependency compared with
CC the AAR of Amycolatopsis sp. TS-1-60 (Appl. Microbiol. Biotechnol., 42,
CC 853, 1995).
XX
SQ Sequence 360 AA;

  Query Match [illegible]%; Score 1893; DB 22; Length 360;
  Best Local Similarity [illegible]%; Pred. No. 1.4e-181;
  Matches 360; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 VKLSGVELRRVRMPLVAPFRTSFGTQSRRELLLVRAVTPAGEGWGECVAMEAPLYSSEYN 60

Db   1 VKLSGVELRRVRMPLVAPFRTSFGTQSRRELLLVRAVTPAGEGWGECVAMEAPLYSSEYN 60

Qy   61 DAAEHVLRNHLIPALLAAEDVTAHKVTPLLAKFKGHRMAKGALEMAVLDAELRAHDRSFA 120

Db   61 DAAEHVLRNHLIPALLAAEDVTAHKVTPLLAKFKGHRMAKGALEMAVLDAELRAHDRSFA 120

Qy   121 AELGSTRDSVACGVSVGIMDSIPHLLDVVGGYLDEGYVRIKLKIEPGWDVEPVRQVRERF 180

Db   121 AELGSTRDSVACGVSVGIMDSIPHLLDVVGGYLDEGYVRIKLKIEPGWDVEPVRQVRERF 180

Qy   181 GDDVLLQVDANTAYTLGDAPLLSRLDPFDLLLIEQPLEEEDVLGHAELAKRIRTPICLDE 240

Qy 341 TEMAMIGS 348

Db 361 TEMAMIGS 368

Title: [illegible]

RESULT 1
[illegible]
N-Acylamino acid racemase - Amycolatopsis sp.
C;Species: Amycolatopsis sp.
C;Date: [illegible] #sequence_revision [illegible] #text_change [illegible]
C;Accession: I39544
R;Tokuyama, S.; Hatano, K.
Appl. Microbiol. Biotechnol. 42, 884-889, 1995
A;Title: Cloning, DNA sequencing and heterologous expression of the gene for thermostable n-acylamino acid racemase from amycolatopsis sp. ts-1-60 in escherichia coli.
A;Reference number: I39544; MUID:96118080; PMID:7766189
A;Accession: I39544
A;Status: preliminary; translated from GB EMBL DDBJ
A;Molecule type: DNA
A;Residues: 1-368 <RES>
A;Cross-references: GB:D30738; NID:g976610; PIDN:BAA06401.1; PID:g976611
C;Genetics:
A;Gene: aaaR
A;Start codon: GTG
C;Superfamily: muconate cycloisomerase

```
  Query Match             90.8%;  Score 1719;  DB 1;  Length 368;
  Best Local Similarity   90.5%;  Pred. No. 4.4e-120;
  Matches  333;  Conservative   14;  Mismatches   21;  Indels    0;  Gaps    0;

Qy          1 VKLSGVELRRVRMPLVAPFRTSFGTQSERELLLVRAVTPAGEGWGECVAMEAPLYSSEYN 60

Db          1 MKLSGVELRRVQMPLVAPFRTSFGTQSVRELLLLRAVTPAGEGWGECVTMAGPLYSSEYN 60

Qy         61 DAAEHVLRNHLIPALLAAEDVTAHKVTPLLAKFKGHRMAKGALEMAVLDAELRAHDRSFA 120

Db         61 DGAEHVLRHYLIPALLAAEDITAAKVTPLLAKFKGHRMAKGALEMAVLDAELRAHERSFA 120

Qy        121 AELGSTRDSVACGVSVGIMDSIPHLLDVVGGYLDEGYVRIKLKIEPGWDVEPVRQVRERF 180

Db        121 AELGSVRDSVPCGVSVGIMDTIPQLLDVVGGYLDEGYVRIKLKIEPGWDVEPVRAVRERF 180

Qy        181 GDDVLLQVDANTAYTLGDAPLLSRLDPFDLLLIEQPLEEEDVLGHAELAKRIRTPICLDE 240

Db        181 GDDVLLQVDANTAYTLGDAPQLARLDPFGLLLIEQPLEEEDVLGHAELARRIQTPICLDE 240

Qy        241 SIVSAKAAADAIKLGACQIVNIKPGRVGGYLEARRVHDVCAAHGIAVWCGGMIETGLGRA 300

Db        241 SIVSARAAADAIKLGAVQIVNIKPGRVGGYLEARRVHDVCAAHGIPVWCGGMIETGLGRA 300

Qy        301 ANVALASLPGFTLPGDTSASGRFYRTDITEPFVLDAGHLPVPTGPGLGVTPIPDLLDEVT 360

Db        301 ANVALASLPNFTLPGDTSASDRFYKTDITEPFVLSGGHLPVPTGPGLGVAPIPELLDEVT 360

Qy        361 TEKAWIGS 368

Db        361 TAKVWIGS 368
```